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LEE et al.
Appl. No. 10/821,128

Listing of the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A composition for use in synthesizing one or more nucleic acid molecules, said composition comprising 2 or more different, modified, nucleotides monomeric deoxyribonucleoside triphosphates.
2. (Original) The composition of claim 1, wherein at least one of said modified nucleotides contains a reactive primary amine.
3. (Original) The composition of claim 1, wherein at least one of said modified nucleotides is aminoallyl-dUTP.
4. (Original) The composition of claim 1, wherein at least one of said modified nucleotides is aminohexyl-dATP.
5. (Original) The composition of claim 1, wherein at least two of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyl-dATP.
6. (Original) The composition of claim 1 further comprising at least one nucleic acid template.
7. (Original) The composition of claim 6, wherein said template is DNA.
8. (Original) The composition of claim 6, wherein said template is RNA.
9. (Original) The composition of claim 8, wherein said template is mRNA or a population of mRNA molecules.
10. (Original) The composition of claim 1, further comprising one or more detectable labels.
11. (Original) The composition of claim 10, wherein said detectable label is a fluorescent label.

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12. (Original) The composition of claim 11, wherein said fluorescent label is a cyanine dye.

13. (Original) The composition of claim 12, wherein said cyanine dye is selected from the group consisting of Cy3 and Cy5.

14. (Original) The composition of claim 10, wherein said fluorescent label is an Alexa dye.

15. (Original) A composition as claimed in any of claims 1-14, further comprising one or more enzymes having reverse transcriptase activity.

16. (Currently Amended) A composition for use in labeling a nucleic acid molecule, said composition comprising 2 or more different, modified, nucleotides monomeric deoxyribonucleoside triphosphates.

17. (Cancelled)

18. (Original) The composition of claim 16, wherein at least one of said modified nucleotides contains a reactive primary amine.

19. (Original) The composition of claim 16, wherein at least one of said modified nucleotides is aminoallyl-dUTP.

20. (Original) The composition of claim 16, wherein at least one of said modified nucleotides is aminohexyl-dATP.

21. (Original) The composition of claim 16, wherein at least two of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyl-dATP.

22. (Original) The composition of claim 16 further comprising at least one nucleic acid template.

23. (Original) The composition of claim 22, wherein said template is DNA.

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24. (Original) The composition of claim 22, wherein said template is RNA.

25. (Original) The composition of claim 24, wherein said template is mRNA or a population of mRNA molecules.

26. (Original) The composition of claim 16, further comprising one or more detectable labels.

27. (Original) The composition of claim 26, wherein said detectable label is a fluorescent label.

28. (Original) The composition of claim 27, wherein said fluorescent label is a cyanine dye.

29. (Original) The composition of claim 28, wherein said cyanine dye is selected from the group consisting of Cy3 and Cy5.

30. (Original) The composition of claim 27, wherein said fluorescent label is an Alexa dye.

31. (Previously Presented) A composition as claimed in any of claims 16-30, further comprising one or more enzymes having reverse transcriptase activity.

32. (Original) A nucleic acid molecule comprising 2 or more modified nucleotides.

33. (Original) A nucleic acid molecule of claim 32, wherein at least one modified nucleotide is aminoallyl-dUTP.

34. (Original) A nucleic acid molecule of claim 32, wherein at least one modified nucleotide is aminohexyl-dATP.

35. (Original) A nucleic acid molecule of claim 32, wherein at least 2 of said modified nucleotides are aminohexyl-dATP and aminoallyl-dUTP.

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36. (Original) A nucleic acid molecule of claim 32, wherein at least one of said modified nucleotides contains a reactive primary amine.

37. (Original) A nucleic acid molecule of claim 32, wherein at least 2 of said modified nucleotides contain a reactive primary amine.

38. (Original) A nucleic acid molecule of claim 32, wherein at least one of said modified nucleotides contains at least one detectable label coupled thereto.

39. (Original) A nucleic acid molecule of claim 32, wherein at least 2 of said modified nucleotides contain at least one detectable label coupled thereto.

40. (Previously Presented) A nucleic acid molecule as claimed in any of claims 38-39, wherein said detectable label is coupled to the reactive primary amine of said modified nucleotide.

41. (Previously Presented) A nucleic acid molecule as claimed in any of claims 38-39, wherein said detectable label is a fluorescent label.

42. (Previously Presented) A nucleic acid molecule as claimed in any of claims 38-39, wherein said detectable label is a cyanine dye.

43. (Previously Presented) A nucleic acid molecule as claimed in any of claims 38-39, wherein said detectable label is selected from the group consisting of Cy3 and Cy5.

44. (Original) A method of synthesizing one or more nucleic acid molecules comprising incubating one or more nucleic acid templates with 2 or more modified nucleotides under conditions sufficient to make one or more first nucleic acid molecules complementary to all or a portion of said one or more templates, wherein at least one said nucleic acid molecule contains said 2 or more modified nucleotides incorporated therein.

45. (Original) A method of claim 44, wherein at least one of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyl-dATP.

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46. (Original) A method of claim 44, wherein at least two of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyldATP.

47. (Original) A method of claim 44, wherein said nucleic acid template is mRNA or a population of mRNA molecules.

48. (Original) A method of claim 44, further comprising incubating said one or more nucleic acid molecules under conditions sufficient to make one or more second nucleic acid molecules complementary to all or a portion of said one or more first nucleic acid molecules.

49. (Original) A method of claim 44, further comprising incubating said one or more nucleic acid molecules in the presence of one or more detectable labels under conditions sufficient to couple one or more of said labels to at least one of said modified nucleotides incorporated therein.

50. (Original) A method of claim 49, wherein at least one of said labels is a fluorescent label.

51. (Original) A method of claim 49, wherein at least one of said labels is a cyanine dye.

52. (Original) A method of claim 49, wherein at least one of said labels is Cy3.

53. (Original) A method of claim 49, wherein at least one of said labels is Cy5.

54. (Original) A method of claim 49, wherein at least one of said labels is an Alexa dye.

55. (Currently Amended) A kit for use in labeling one or more nucleic acid molecules, said kit comprising 2 or more different, modified, nucleotides monomeric deoxyribonucleoside triphosphates.

56. (Original) A kit of claim 55, wherein at least one of said modified nucleotides contains a reactive primary amine.

57. (Original) A kit of claim 55, wherein at least 2 of said modified nucleotides contain primary reactive amines.

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58. (Original) A kit of claim 55, wherein at least one of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyl-dATP.

59. (Original) A kit of claim 55, wherein at least one of said modified nucleotides is aminoallyl-dUTP.

60. (Original) A kit of claim 55, wherein at least one of said modified nucleotides is aminohexyl-dATP.

61. (Original) A kit of claim 55, wherein at least two of said modified nucleotides is selected from the group consisting of aminoallyl-dUTP and aminohexyl-dATP.

62. (Original) A kit of claim 55, further comprising at least one nucleic acid template.

63. (Original) A kit of claim 62, wherein said nucleic acid template is DNA.

64. (Original) A kit of claim 62, wherein said nucleic acid template is RNA.

65. (Original) A kit of claim 64, wherein said RNA template is mRNA or a population of mRNA molecules.

66. (Original) A kit of claim 55, further comprising one or more detectable labels.

67. (Original) A kit of claim 66, wherein at least one detectable label is a fluorescent label.

68. (Original) A kit of claim 66, wherein at least one detectable label is a cyanine dye.

69. (Original) A kit of claim 66, wherein at least one detectable label is selected from the group consisting of Cy3 and Cy5.

70. (Original) A kit of claim 66, wherein at least one detectable label is an Alexa dye.

71. (Previously Presented) A kit as claimed in any of claims 55-70, further comprising one or more enzymes having reverse transcriptase activity.